

IN THE CLAIMS:

This listing of claims replaces all prior versions, and listings, of the claims in the application:

1. (Currently Amended) A stamp detecting device comprising:

an image input section which inputs an image of a letter having a at least one stamp affixed thereto; and

a stamp detecting section which (i) discriminates at least one area seeming to be the stamp from another area based on the input image, and (ii) detects as a stamp area, an area that includes two or more areas seeming to be the stamp along with said another area, if said another area is located between the two or more areas and has a size falling within a preset permissible range. ~~detects a stamp by determining a gap area as an internal area of the stamp if the size of the gap area is within a preset permissible range in a case where the gap area which is partly determined as an external area of the stamp is present in an area which is determined as the internal area of the stamp affixed to the letter based on the image input from said image input section.~~

2. (Currently Amended) The stamp detecting device according to claim 1,

wherein said stamp detecting section discriminates an internal area of the stamp from said another area based on a stamp internal area threshold value set with respect to a projection value of one of density and luminance of the input image,

detects, as the stamp area, the internal area and an area adjacent thereto that is detected not to be the internal area, if the area adjacent to the internal area and detected not to be the internal area has a size falling within a permissible gap range, and

detects the internal area as the stamp area if the area adjacent to the internal area and detected not to be the internal area has a size falling out of the permissible

~~gap value. derives a projection value of one of density and luminance based on an image input from said image input section, determines an internal area of the stamp according to a stamp internal area threshold value with respect to the projection value, determines an external area of the stamp according to a stamp external area threshold value with respect to the projection value, and determines whether or not the gap area lies within a preset permissible range according to a gap permissible value with respect to the size of the gap area.~~

3. (Currently Amended) The stamp detecting device according to claim [[2]] 1, further comprising a control section which changes one of a stamp internal area threshold value and a permissible gap range and causes said stamp detecting section to again perform stamp detection, if the detected area for the stamp does not have an appropriate size. ~~conditions of the stamp internal area threshold value, stamp external area threshold value and gap permissible value based on the size of the stamp detected by said stamp detecting section and causes said stamp detecting section to perform the stamp detecting process again.~~

4. (Currently Amended) A letter processing apparatus comprising:
an image input section which inputs an image of a letter having at least one stamp affixed thereto;
a stamp detecting section which (i) discriminates at least one area seeming to be the stamp from another area based on the input image, and (ii) detects, as an area for the stamp, an area that includes two or more areas seeming to be the stamp along with said another area, if said another area is held between the two or more areas and has a size falling within a preset permissible range; detects a stamp by determining a gap area as an internal area of the stamp if the size of the gap area is within a preset permissible range in a case where the gap area which is partly determined as an external area of the stamp is present in an area which is determined as the internal

~~area of the stamp affixed to the letter based on the image input from said image input section;~~

a stamp identifying section which identifies a type of the stamp detected by said stamp detecting section;

a stamp face value calculating section which derives a total face value of the stamps affixed to the letter based the type of stamp identified by said stamp identifying section; and

a sorting section which sorts the letter based on the total face value of the stamps derived by said stamp face value calculating section.

5. (Currently Amended) The letter processing apparatus according to claim 4, wherein said stamp detecting section discriminates an internal area of the stamp from said another area based on a stamp internal area threshold value set with respect to a projection value of one of a density and luminance of the input image;

detects, as the area for the stamp, the internal area and an area adjacent thereto and detected not to be the internal area, if the area adjacent to the internal area and detected not to be the internal area has a size falling within a permissible gap range; and

detects the internal area as the area for the stamp if the area adjacent to the internal area and detected not to be the internal area has a size falling out of the permissible gap value. ~~derives a projection value of one of density and luminance based on an image input from said image input section, determines an internal area of the stamp according to a stamp internal area threshold value with respect to the projection value, determines an external area of the stamp according to a stamp external area threshold value with respect to the projection value, and determines whether or not the gap area lies within a preset permissible range according to a gap permissible value with respect to the size of the gap area.~~

6. (Currently Amended) The letter processing apparatus according to claim [[5]] 4, further comprising a control section which changes one of a stamp internal area threshold value and a permissible gap range and causes said stamp detecting section to again perform stamp detection, if the detected area for the stamp does not have an appropriate size. ~~conditions of the stamp internal area threshold value, stamp external area threshold value and gap permissible value based on the size of the stamp detected by said stamp detecting section and causes said stamp detecting section to perform the stamp detecting process again.~~

7. (Canceled).

8. (Currently Amended) A letter processing apparatus comprising:
an image input section which inputs an image of a letter having at least one stamp affixed thereto;

a stamp detecting section which detects a stamp affixed to the letter based on one of a density projection value and luminance projection value derived according to the image input by said image input section;

a stamp identifying section which identifies a type and affixed orientation of the stamp by collating a pattern of the stamp detected by said stamp detecting section with a plurality of standard patterns previously prepared for respective rotational positions of the stamp;

a stamp face value determining section which derives a total face value of the stamps affixed to the letter based on the type of the stamp identified by said stamp identifying section; and

a sorting section which sorts the letter based on the total face value of the stamps derived by said stamp face value determining section. ~~The letter processing apparatus according to claim 7, wherein said identifying section identifies a type and affixed orientation of the stamp by collating a pattern of the stamp detected by said~~

~~stamp detecting section with a plurality of standard patterns previously prepared for respective rotational positions of the stamp.~~

9. (Currently Amended) The letter processing apparatus according to claim ~~[[7]]~~ 4, which further comprises a memory section which previously stores noticed area specifying information used for specifying a noticed partial area at the time of identification of the stamp by said stamp identifying section and in which said stamp identifying section identifies the type of stamp by collating a pattern of the stamp detected by said stamp detecting section with a plurality of previously prepared standard patterns only in a partial area specified by the noticed area specifying information stored in said memory section.

10. (Currently Amended) A letter processing apparatus comprising:
an image input section which inputs an image of a letter having at least one stamp affixed thereto;

a stamp detecting section which detects a stamp affixed to the letter based on one of a density projection value and luminance projection value derived according to the image input by said image input section;

a stamp identifying section which identifies an affixed orientation of the stamp detected by said stamp detecting section, changes the orientation of the noticed partial area based on the identified affixed orientation and then identifies a type of the stamp;

a stamp face value determining section which derives a total face value of the stamps affixed to the letter based on the type of the stamp identified by said stamp identifying section; and

a sorting section which sorts the letter based on the total face value of the stamps derived by said stamp face value determining section. ~~The letter processing apparatus according to claim 7, wherein said stamp identifying section identifies an affixed orientation of the stamp detected by said stamp detecting section, changes the~~

~~orientation of the noticed partial area based on the identified affixed orientation and then identifies the type of the stamp.~~

11. (Currently Amended) The letter processing apparatus according to claim [[7]] 4, which further comprises a memory section which previously stores types of total face values of permissible stamps; and a total face value determining section which determines a total face value of stamps by collating total face value amounts stored in said memory section with a total face value derived by said stamp face value determining section and in which said sorting section sorts the letter based on the total face value determined by said total face value determining section.

12. (Currently Amended) The letter processing apparatus according to claim [[7]] 4, which further comprises a determining section which determines whether the total face value derived by said stamp face value determining section is adequate or not and an imprinting section which postmarks the letter based on position information of the stamp detected by said stamp detecting section when it is determined by said determining section that the total face value derived by said stamp face value determining section is adequate and in which said sorting section sorts the letter based on the total face value of the stamps derived by said stamp face value determining section when it is determined by said determining section that the total face value derived by said stamp face value determining section is adequate.

13. (Currently Amended) A stamp detecting method comprising:
inputting an image of a letter having at least one stamp affixed thereto; and
discriminating, in the input image, at least one area seeming to be the stamp from another area; and
detecting, as an area for the stamp, an area that includes two or more areas seeming to be the stamp and said another area, if said another area is held between the

~~two or more areas and has a size falling within a preset permissible range. detecting a stamp by determining a gap area as an internal area of the stamp if the size of the gap area is within a preset permissible range in a case where the gap area which is partly determined as an external area of the stamp is present in an area which is determined as the internal area of the stamp affixed to the letter based on the image input in said image inputting step.~~

14. (Currently Amended) A letter processing method comprising:
inputting an image of a letter having at least one stamp affixed thereto;
discriminating, in the input image, at least one area seeming to be the stamp
from another area; and

detecting, as an area for the stamp, an area that includes two or more areas
seeming to be the stamp and said another area, if said another area is held between the
two or more areas and has a size falling within a preset permissible range;

~~detecting a stamp by determining a gap area as an internal area of the stamp if the size of the gap area is within a preset permissible range in a case where the gap area which is partly determined as an external area of the stamp is present in an area which is determined as the internal area of the stamp affixed to the letter based on the image input in said image inputting step;~~

identifying ~~[[the]]~~ a type of the stamp ~~detected in the detected area said stamp~~
~~detecting step;~~

deriving a total face value of the stamps affixed to the letter based on the type
of the stamp identified ~~[[in]]~~ by said identifying ~~[[step]]~~; and

sorting the letter based on the total face value of the stamps derived ~~[[in]]~~ by
said deriving ~~[[step]]~~.

15. (Currently Amended) The letter processing method according to
claim 14, wherein said discriminating includes discriminating the at least one area

seeming to be the stamp from said another area, based on a threshold value set with respect to a projection value of one of a density and luminance of the input image. A letter processing method comprising: inputting an image of a letter having at least one stamp affixed thereto; deriving a density projection value based on the input image; detecting a stamp affixed to the letter based on the thus derived projection value; identifying the type of the detected stamp; deriving a total face value of the stamps affixed to the letter based on the type of the stamp thus identified; and sorting the letter based on the thus derived total face value of the stamps.

16. (Currently Amended) A letter processing method comprising:
inputting an image of a letter having at least one stamp affixed thereto;
detecting a stamp affixed to the letter based on one of a density projection value and luminance projection value derived from the input image;
identifying a type and affixed orientation of the detected stamp by collating a pattern of the detected stamp with a plurality of standard patterns previously prepared for respective rotational positions of the stamp;
deriving a total face value of the stamps affixed to the letter based on the type of the stamp thus identified; and
sorting the letter based on the thus derived total face value of the stamps. The letter processing method according to claim 15, wherein said stamp type identifying step identifies the type and affixed orientation of the stamp by collating a pattern of the stamp detected by said stamp detecting step with a plurality of standard patterns previously prepared for respective rotational positions of the stamp.

17. (Currently Amended) The letter processing method according to claim ~~[[15]]~~ 14, wherein said stamp type identifying step identifies identifying includes identifying a type of the stamp by collating a pattern of ~~the stamp detected by said stamp detecting~~ the detected stamp with a plurality of previously prepared

standard patterns only in a partial area specified by noticed area specifying information previously stored in a memory section and used for specifying a noticed partial area at the time of identification.

18. (Currently Amended) A letter processing method comprising:
inputting an image of a letter having at least one stamp affixed thereto;
detecting a stamp affixed to the letter based on one of a density projection
value and luminance projection value derived from the input image;
identifying an affixed orientation of the detected stamp, changing the
orientation of the noticed partial area based on the identified affixed orientation and
then identifying a type of the stamp;
deriving a total face value of the stamps affixed to the letter based on the type
of the stamp thus identified; and
sorting the letter based on the thus derived total face value of the stamps. The
~~letter processing method according to claim 15, wherein said stamp type identifying~~
~~step identifies the affixed orientation of the stamp detected by said stamp detecting~~
~~step, changes the orientation of the noticed partial area based on the identified affixed~~
~~orientation and then identifies the type of stamp.~~

19. (Currently Amended) The letter processing method according to claim [[15]] 14, which further comprises determining a total face value of stamps by collating total face value amounts determined based on the types of permissible total face value amounts of the stamps previously stored in a memory section with a total face value derived by said ~~determining stamp face value determining step~~ and in which said sorting includes sorting step ~~sorts~~ the letter based on the total face value determined by said ~~determining total face value determining step~~.

20. (Currently Amended) The letter processing method according to claim [[15]] 14, which further comprises determining whether the total face value of the stamps derived by said determining stamp-face-value-determining-step is adequate or not and postmarking the letter based on position information of the stamp detected by said [[stamp]] detecting [[step]] when it is determined by said determining [[step]] that the total face value derived by said ~~stamp-face-value~~ determining [[step]] is adequate and in which said sorting includes sorting step ~~step~~ sorts the letter based on the total face value of the stamps derived by said ~~stamp-face-value~~ determining [[step]] when it is determined by said determining [[step]] that the total face value of the stamps derived by said ~~stamp-face-value~~ determining [[step]] is adequate.